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<110>  GOTO, Masaaki
       TSUDA, Eisuke
       MOCHIZUKI, Shin'ichi
       YANO, Kazuki
       KOBAYASHI, Fumie
       SHIMA, Nobuyuki
       YASUDA, Hisataka
       NAKAGAWA, Nobuaki
       MORINAGA, Tomonori
       UEDA, Masatsugu
       HIGASHIO, Kanji

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<141>  1999-06-23

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Glu Thr Phe Pro Pro Lys Tyr Leu His Tyr Asp Glu Glu Thr Ser His
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Gln Leu Leu Cys Asp Lys Cys Pro Pro Gly Thr Tyr Leu Lys Gln His
              20   25   30

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Cys Thr Ala Lys Trp Lys Thr Val Cys Ala Pro Cys Pro Asp His Tyr
        35              40              45

Tyr Thr Asp Ser Trp His Thr Ser Asp Glu Cys Leu Tyr Cys Ser Pro
        50              55              60

Val Cys Lys Glu Leu Gln Tyr Val Lys Gln Glu Cys Asn Arg Thr His
65              70              75              80

Asn Arg Val Cys Glu Cys Lys Glu Gly Arg Tyr Leu Glu Ile Glu Phe
            85              90              95

Cys Leu Lys His Arg Ser Cys Pro Pro Gly Phe Gly Val Val Gln Ala
            100             105             110

Gly Thr Pro Glu Arg Asn Thr Val Cys Lys Arg Cys Pro Asp Gly Phe
        115             120             125

Phe Ser Asn Glu Thr Ser Ser Lys Ala Pro Cys Arg Lys His Thr Asn
        130             135             140

Cys Ser Val Phe Gly Leu Leu Leu Thr Gln Lys Gly Asn Ala Thr His
145             150             155             160

Asp Asn Ile Cys Ser Gly Asn Ser Glu Ser Thr Gln Lys Cys Gly Ile
            165             170             175

Asp Val Thr Leu Cys Glu Glu Ala Phe Phe Arg Phe Ala Val Pro Thr
        180             185             190

Lys Phe Thr Pro Asn Trp Leu Ser Val Leu Val Asp Asn Leu Pro Gly
        195             200             205

Thr Lys Val Asn Ala Glu Ser Val Glu Arg Ile Lys Arg Gln His Ser
    210             215             220

Ser Gln Glu Gln Thr Phe Gln Leu Leu Lys Leu Trp Lys His Gln Asn
225             230             235             240

Lys Asp Gln Asp Ile Val Lys Lys Ile Ile Gln Asp Ile Asp Leu Cys
            245             250             255
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3

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Glu Asn Ser Val Gln Arg His Ile Gly His Ala Asn Leu Thr Phe Glu
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Gln Leu Arg Ser Leu Met Glu Ser Leu Pro Gly Lys Lys Val Gly Ala
            275                 280                 285

Glu Asp Ile Glu Lys Thr Ile Lys Ala Cys Lys Pro Ser Asp Gln Ile
            290                 295                 300

Leu Lys Leu Leu Ser Leu Trp Arg Ile Lys Asn Gly Asp Gln Asp Thr
305                 310                 315                 320

Leu Lys Gly Leu Met His Ala Leu Lys His Ser Lys Thr Tyr His Phe
                325                 330                 335

Pro Lys Thr Val Thr Gln Ser Leu Lys Lys Thr Ile Arg Phe Leu His
            340                 345                 350

Ser Phe Thr Met Tyr Lys Leu Tyr Gln Lys Leu Phe Leu Glu Met Ile
            355                 360                 365

Gly Asn Gln Val Gln Ser Val Lys Ile Ser Cys Leu
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1               5                   10                  15

Lys Trp Thr Thr Gln Glu Thr Phe Pro Pro Lys Tyr Leu His Tyr Asp
            20                  25                  30

Glu Glu Thr Ser His Gln Leu Leu Cys Asp Lys Cys Pro Pro Gly Thr
            35                  40                  45

Tyr Leu Lys Gln His Cys Thr Ala Lys Trp Lys Thr Val Cys Ala Pro
    50                  55                  60

Cys Pro Asp His Tyr Tyr Thr Asp Ser Trp His Thr Ser Asp Glu Cys
65                  70                  75                  80
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4

Leu Tyr Cys Ser Pro Val Cys Lys Glu Leu Gln Tyr Val Lys Gln Glu
                85   90   95

Cys Asn Arg Thr His Asn Arg Val Cys Glu Cys Lys Glu Gly Arg Tyr
            100   105   110

Leu Glu Ile Glu Phe Cys Leu Lys His Arg Ser Cys Pro Pro Gly Phe
            115   120   125

Gly Val Val Gln Ala Gly Thr Pro Glu Arg Asn Thr Val Cys Lys Arg
        130   135   140

Cys Pro Asp Gly Phe Phe Ser Asn Glu Thr Ser Ser Lys Ala Pro Cys
145   150   155   160

Arg Lys His Thr Asn Cys Ser Val Phe Gly Leu Leu Leu Thr Gln Lys
                165   170   175

Gly Asn Ala Thr His Asp Asn Ile Cys Ser Gly Asn Ser Glu Ser Thr
                180   185   190

Gln Lys Cys Gly Ile Asp Val Thr Leu Cys Glu Glu Ala Phe Phe Arg
            195   200   205

Phe Ala Val Pro Thr Lys Phe Thr Pro Asn Trp Leu Ser Val Leu Val
        210   215   220

Asp Asn Leu Pro Gly Thr Lys Val Asn Ala Glu Ser Val Glu Arg Ile
225   230   235   240

Lys Arg Gln His Ser Ser Gln Glu Gln Thr Phe Gln Leu Leu Lys Leu
                245   250   255

Trp Lys His Gln Asn Lys Asp Gln Asp Ile Val Lys Lys Ile Ile Gln
            260   265   270

Asp Ile Asp Leu Cys Glu Asn Ser Val Gln Arg His Ile Gly His Ala
            275   280   285

Asn Leu Thr Phe Glu Gln Leu Arg Ser Leu Met Glu Ser Leu Pro Gly
290   295   300

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Lys Lys Val Gly Ala Glu Asp Ile Glu Lys Thr Ile Lys Ala Cys Lys
305   310   315   320

Pro Ser Asp Gln Ile Leu Lys Leu Leu Ser Leu Trp Arg Ile Lys Asn
                325   330   335

Gly Asp Gln Asp Thr Leu Lys Gly Leu Met His Ala Leu Lys His Ser
            340   345   350

Lys Thr Tyr His Phe Pro Lys Thr Val Thr Gln Ser Leu Lys Lys Thr
        355   360   365

Ile Arg Phe Leu His Ser Phe Thr Met Tyr Lys Leu Tyr Gln Lys Leu
    370   375   380

Phe Leu Glu Met Ile Gly Asn Gln Val Gln Ser Val Lys Ile Ser Cys
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cacaaccgcg tgtgcgaatg caaggaaggg cgctaccttg agatagagtt ctgcttgaaa   360

cataggagct gccctcctgg atttggagtg gtgcaagctg aacccccaga gcgaaataca   420

gtttgcaaaa gatgtccaga tgggttcttc tcaaatgaga cgtcatctaa agcaccctgt   480

agaaaacaca caaattgcag tgtctttggt ctcctgctaa ctcagaaagg aaatgcaaca   540

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ctgtgtgagg aggcattctt caggtttgct gttcctacaa agtttacgcc taactggctt   660

6

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aacaaagacc aagatatagt caagaagatc atccaagata ttgacctctg tgaaaacagc    840

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accttgaagg gcctaatgca cgcactaaag cactcaaaga cgtaccactt tcccaaaact   1080

gtcactcaga gtctaaagaa gaccatcagg ttccttcaca gcttcacaat gtacaaattg   1140

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gtgtgcgccc cttgccctga ccactactac acagacagct ggcacaccag tgacgagtgt    240

ctatactgca gccccgtgtg caaggagtgc aatcgcaccc acaaccgcgt gtgcgaatgc    300

aaggaagggc gctaccttga gatagagttc tgcttgaaac ataggagctg ccctcctgga    360

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gggttcttct caaatgagac gtcatctaaa gcaccctgta gaaaacacac aaattgcagt    480

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7

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gaacagactt tccagctgct gaagttatgg aaacatcaaa acaaagacca agatatagtc    780

aagaagatca tccaagatat tgacctctgt gaaaacagcg tgcagcggca cattggacat    840

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ggagcagaag acattgaaaa aacaataaag gcatgcaaac ccagtgacca gatcctgaag    960

ctgctcagtt tgtggcgaat aaaaaatggc gaccaagaca ccttgaaggg cctaatgcac    1020

gcactaaagc actcaaagac gtaccacttt cccaaaactg tcactcagag tctaaagaag    1080

accatcaggt tccttcacag cttcacaatg tacaaattgt atcagaagtt attttttagaa   1140

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<213>   Homo sapiens

<400>   9

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1               5                   10                  15


Lys Trp Thr Thr Gln Glu Thr Phe Pro Pro Lys Tyr Leu His Tyr Asp
                20                  25                  30


Glu Glu Thr Ser His Gln Leu Leu Cys Asp Lys Cys Pro Pro Gly Thr
            35                  40                  45


Tyr Leu Lys Gln His Cys Thr Ala Lys Trp Lys Thr Val Cys Ala Pro
    50                  55                  60


Cys Pro Asp His Tyr Tyr Thr Asp Ser Trp His Thr Ser Asp Glu Cys
65                  70                  75                  80


Leu Tyr Cys Ser Pro Val Cys Lys Glu Cys Asn Arg Thr His Asn Arg
                85                  90                  95


Val Cys Glu Cys Lys Glu Gly Arg Tyr Leu Glu Ile Glu Phe Cys Leu
                100                 105                 110
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8

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Lys His Arg Ser Cys Pro Pro Gly Phe Gly Val Val Gln Ala Gly Thr
        115             120             125

Pro Glu Arg Asn Thr Val Cys Lys Arg Cys Pro Asp Gly Phe Phe Ser
    130             135             140

Asn Glu Thr Ser Ser Lys Ala Pro Cys Arg Lys His Thr Asn Cys Ser
145             150             155             160

Val Phe Gly Leu Leu Leu Thr Gln Lys Gly Asn Ala Thr His Asp Asn
            165             170             175

Ile Cys Ser Gly Asn Ser Glu Ser Thr Gln Lys Cys Gly Ile Asp Val
            180             185             190

Thr Leu Cys Glu Glu Ala Phe Phe Arg Phe Ala Val Pro Thr Lys Phe
        195             200             205

Thr Pro Asn Trp Leu Ser Val Leu Val Asp Asn Leu Pro Gly Thr Lys
    210             215             220

Val Asn Ala Glu Ser Val Glu Arg Ile Lys Arg Gln His Ser Ser Gln
225             230             235             240

Glu Gln Thr Phe Gln Leu Leu Lys Leu Trp Lys His Gln Asn Lys Asp
            245             250             255

Gln Asp Ile Val Lys Lys Ile Ile Gln Asp Ile Asp Leu Cys Glu Asn
            260             265             270

Ser Val Gln Arg His Ile Gly His Ala Asn Leu Thr Phe Glu Gln Leu
        275             280             285

Arg Ser Leu Met Glu Ser Leu Pro Gly Lys Lys Val Gly Ala Glu Asp
    290             295             300

Ile Glu Lys Thr Ile Lys Ala Cys Lys Pro Ser Asp Gln Ile Leu Lys
305             310             315             320

Leu Leu Ser Leu Trp Arg Ile Lys Asn Gly Asp Gln Asp Thr Leu Lys
            325             330             335

Gly Leu Met His Ala Leu Lys His Ser Lys Thr Tyr His Phe Pro Lys
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9

Thr Val Thr Gln Ser Leu Lys Lys Thr Ile Arg Phe Leu His Ser Phe
        355   360   365

Thr Met Tyr Lys Leu Tyr Gln Lys Leu Phe Leu Glu Met Ile Gly Asn
        370   375   380

Gln Val Gln Ser Val Lys Ile Ser Cys Leu
385   390

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cacaaccgcg tgtgcgaatg caaggaaggg cgctaccttg agatagagtt ctgcttgaaa   360

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aaacggcaac acagctcaca gaacagact ttccagctgc tgaagttatg gaaacatcaa   780

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gacaccttga agggcctaat gcacgcacta aagcactcaa agacgtacca ctttcccaaa   960

actgtcactc agagtctaaa gaagaccatc aggttccttc acagcttcac aatgtacaaa   1020

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<213> Homo sapiens

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            20   25   30

Glu Glu Thr Ser His Gln Leu Leu Cys Asp Lys Cys Pro Pro Gly Thr
        35   40   45

Tyr Leu Lys Gln His Cys Thr Ala Lys Trp Lys Thr Val Cys Ala Pro
    50   55   60

Cys Pro Asp His Tyr Tyr Thr Asp Ser Trp His Thr Ser Asp Glu Cys
65   70   75   80

Leu Tyr Cys Ser Pro Val Cys Lys Glu Leu Gln Tyr Val Lys Gln Glu
                85   90   95

Cys Asn Arg Thr His Asn Arg Val Cys Glu Cys Lys Glu Gly Arg Tyr
            100   105   110

Leu Glu Ile Glu Phe Cys Leu Lys His Arg Ser Cys Pro Pro Gly Phe
        115   120   125

Gly Val Val Gln Ala Gly Thr Pro Glu Arg Asn Thr Val Cys Lys Arg
    130   135   140

Cys Pro Asp Gly Phe Phe Ser Asn Glu Thr Ser Ser Lys Ala Pro Cys
145   150   155   160

Arg Lys His Thr Asn Cys Ser Val Phe Gly Leu Leu Leu Thr Gln Lys
                165   170   175

Gly Asn Ala Thr His Asp Asn Ile Cys Ser Gly Asn Ser Glu Ser Thr
            180   185   190

11

Gln Lys Cys Gly Ile Asp Val Thr Leu Cys Glu Glu Ala Phe Phe Arg
        195   200   205

Phe Ala Val Pro Thr Lys Phe Thr Pro Asn Trp Leu Ser Val Leu Val
        210   215   220

Asp Asn Leu Pro Gly Thr Lys Val Asn Ala Glu Ser Val Glu Arg Ile
225   230   235   240

Lys Arg Gln His Ser Ser Gln Glu Gln Thr Phe Gln Leu Leu Lys Leu
                245   250   255

Trp Lys His Gln Asn Lys Asp Gln Asp Ile Val Lys Lys Ile Ile Gln
            260   265   270

Asp Ile Asp Leu Cys Glu Asn Ser Val Gln Arg His Ile Gly His Ala
        275   280   285

Asn Leu Ser Leu Trp Arg Ile Lys Asn Gly Asp Gln Asp Thr Leu Lys
    290   295   300

Gly Leu Met His Ala Leu Lys His Ser Lys Thr Tyr His Phe Pro Lys
305   310   315   320

Thr Val Thr Gln Ser Leu Lys Lys Thr Ile Arg Phe Leu His Ser Phe
                325   330   335

Thr Met Tyr Lys Leu Tyr Gln Lys Leu Phe Leu Glu Met Ile Gly Asn
            340   345   350

Gln Val Gln Ser Val Lys Ile Ser Cys Leu
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12

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cacaaccgcg tgtgcgaatg caaggaaggg cgctaccttg agatagagtt ctgcttgaaa      360

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Lys Trp Thr Thr Gln Glu Thr Phe Pro Pro Lys Tyr Leu His Tyr Asp
            20                  25                  30


Glu Glu Thr Ser His Gln Leu Leu Cys Asp Lys Cys Pro Pro Gly Thr
            35                  40                  45


Tyr Leu Lys Gln His Cys Thr Ala Lys Trp Lys Thr Val Cys Ala Pro
    50                  55                  60


Cys Pro Asp His Tyr Tyr Thr Asp Ser Trp His Thr Ser Asp Glu Cys
65                  70                  75                  80


Leu Tyr Cys Ser Pro Val Cys Lys Glu Leu Gln Tyr Val Lys Gln Glu
                85                  90                  95


Cys Asn Arg Thr His Asn Arg Val Cys Glu Cys Lys Glu Gly Arg Tyr
            100                 105                 110


Leu Glu Ile Glu Phe Cys Leu Lys His Arg Ser Cys Pro Pro Gly Phe
            115                 120                 125


Gly Val Val Gln Ala Gly Thr Cys Gln Cys Ala Ala Lys Leu Ile Arg
    130                 135                 140


Ile Met Gln Ser Gln Ile Val Val Thr Val
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gtgtgcgccc cttgccctga ccactactac acagacagct ggcacaccag tgacgagtgt   240

ctatactgca gccccgtgtg caaggagctg cagtacgtca gcaggagtg caatcgcacc   300

cacaaccgcg tgtgcgaatg caaggaaggg cgctaccttg agatagagtt ctgcttgaaa   360

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<400> 15

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Lys Trp Thr Thr Gln Glu Thr Phe Pro Pro Lys Tyr Leu His Tyr Asp
            20   25   30

Glu Glu Thr Ser His Gln Leu Leu Cys Asp Lys Cys Pro Pro Gly Thr
            35   40   45

Tyr Leu Lys Gln His Cys Thr Ala Lys Trp Lys Thr Val Cys Ala Pro
    50   55   60

Cys Pro Asp His Tyr Tyr Thr Asp Ser Trp His Thr Ser Asp Glu Cys
65   70   75   80

Leu Tyr Cys Ser Pro Val Cys Lys Glu Leu Gln Tyr Val Lys Gln Glu
                85   90   95

Cys Asn Arg Thr His Asn Arg Val Cys Glu Cys Lys Glu Gly Arg Tyr
            100   105   110

14

Leu Glu Ile Glu Phe Cys Leu Lys His Arg Ser Cys Pro Pro Gly Phe
        115   120   125

Gly Val Val Gln Ala Gly Cys Arg Arg Arg Pro Lys Pro Gln Ile Cys
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<400> 28
caaactgtat ttcgctctgg   20

<210> 29

17

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<211>   20
<212>   DNA
<213>   Artificial Sequence

<220>
<223>   Synthetic Sequence

<400>   29
gtgtgaggag gcattcttca                                          20


<210>   30
<211>   32
<212>   DNA
<213>   Artificial Sequence

<220>
<223>   Synthetic Sequence

<400>   30
gaatcaactc aaaaaagtgg aatagatgtt ac                            32


<210>   31
<211>   32
<212>   DNA
<213>   Artificial Sequence

<220>
<223>   Synthetic Sequence

<400>   31
gtaacatcta ttccactttt ttgagttgat tc                            32


<210>   32
<211>   30
<212>   DNA
<213>   Artificial Sequence

<220>
<223>   Synthetic Sequence

<400>   32
atagatgtta ccctgagtga ggaggcattc                               30


<210>   33
<211>   30
<212>   DNA
<213>   Artificial Sequence

<220>
<223>   Synthetic Sequence

<400>   33
gaatgcctcc tcactcaggg taacatctat                               30
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<210>   34
<211>   31
<212>   DNA
<213>   Artificial Sequence

<220>
<223>   Synthetic Sequence

<400>   34
caagatattg acctcagtga aaacagcgtg c                                31


<210>   35
<211>   31
<212>   DNA
<213>   Artificial Sequence

<220>
<223>   Synthetic Sequence

<400>   35
gcacgctgtt ttcactgagg gcaatatctt g                                31


<210>   36
<211>   31
<212>   DNA
<213>   Artificial Sequence

<220>
<223>   Synthetic Sequence

<400>   36
aaaacaataa aggcaagcaa acccagtgac c                                31


<210>   37
<211>   31
<212>   DNA
<213>   Artificial Sequence

<220>
<223>   Synthetic Sequence

<400>   37
ggtcactggg tttgcttgcc tttattgttt t                                31


<210>   38
<211>   31
<212>   DNA
<213>   Artificial Sequence

<220>
<223>   Synthetic Sequence
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<400>  38
tcagtaaaaa taagcagctt ataactggcc a                               31


<210>  39
<211>  31
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Synthetic Sequence

<400>  39
tggccagtta taagctgctt atttttactg a                               31


<210>  40
<211>  22
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Synthetic Sequence

<400>  40
ttggggttta ttggaggaga tg                                         22


<210>  41
<211>  36
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Synthetic Sequence

<400>  41
accacccagg aaccttgccc tgaccactac tacaca                          36


<210>  42
<211>  36
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Synthetic Sequence

<400>  42
gtcagggcaa ggttcctggg tggtccactt aatgga                          36


<210>  43
<211>  36
<212>  DNA
<213>  Artificial Sequence
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<220>
<223>  Synthetic Sequence

<400>  43
accgtgtgcg ccgaatgcaa ggaagggcgc tacctt                              36


<210>  44
<211>  36
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Synthetic Sequence

<400>  44
ttccttgcat tcggcgcaca cggtcttcca ctttgc                              36


<210>  45
<211>  36
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Synthetic Sequence

<400>  45
aaccgcgtgt gcagatgtcc agatgggttc ttctca                              36


<210>  46
<211>  36
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Synthetic Sequence

<400>  46
atctggacat ctgcacacgc ggttgtgggt gcgatt                              36


<210>  47
<211>  36
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Synthetic Sequence

<400>  47
acagtttgca aatccggaaa cagtgaatca actcaa                              36


<210>  48
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<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 48
actgtttccg gatttgcaaa ctgtatttcg ctctgg   36

<210> 49
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 49
aatgtggaat agatattgac ctctgtgaaa acagcg   36

<210> 50
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 50
agaggtcaat atctattcca catttttgag ttgatt   36

<210> 51
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 51
agatcatcca agacgcacta aagcactcaa agacgt   36

<210> 52
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 52
gctttagtgc gtcttggatg atcttcttga ctatat   36

22

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<210>  53
<211>  29
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Synthetic Sequence

<400>  53
ggctcgagcg cccagccgcc gcctccaag                                    29


<210>  54
<211>  20
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Synthetic Sequence

<400>  54
tttgagtgct ttagtgcgtg                                              20


<210>  55
<211>  30
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Synthetic Sequence

<400>  55
tcagtaaaaa taagctaact ggaaatggcc                                   30


<210>  56
<211>  30
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Synthetic Sequence

<400>  56
ggccatttcc agttagctta tttttactga                                   30


<210>  57
<211>  29
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Synthetic Sequence
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<400>  57
ccggatcctc agtgctttag tgcgtgcat                                              29


<210>  58
<211>  29
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Synthetic Sequence

<400>  58
ccggatcctc attggatgat cttcttgac                                             29


<210>  59
<211>  29
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Synthetic Sequence

<400>  59
ccggatcctc atattccaca tttttgagt                                             29


<210>  60
<211>  29
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Synthetic Sequence

<400>  60
ccggatcctc atttgcaaac tgtatttcg                                             29


<210>  61
<211>  29
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Synthetic Sequence

<400>  61
ccggatcctc attcgcacac gcggttgtg                                             29


<210>  62
<211>  401
<212>  PRT
<213>  Homo sapiens
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24

<400> 62

Met Asn Asn Leu Leu Cys Cys Ala Leu Val Phe Leu Asp Ile Ser Ile
1   5   10   15

Lys Trp Thr Thr Gln Glu Thr Phe Pro Pro Lys Tyr Leu His Tyr Asp
        20   25   30

Glu Glu Thr Ser His Gln Leu Leu Cys Asp Lys Cys Pro Pro Gly Thr
        35   40   45

Tyr Leu Lys Gln His Cys Thr Ala Lys Trp Lys Thr Val Cys Ala Pro
    50   55   60

Cys Pro Asp His Tyr Tyr Thr Asp Ser Trp His Thr Ser Asp Glu Cys
65   70   75   80

Leu Tyr Cys Ser Pro Val Cys Lys Glu Leu Gln Tyr Val Lys Gln Glu
            85   90   95

Cys Asn Arg Thr His Asn Arg Val Cys Glu Cys Lys Glu Gly Arg Tyr
            100   105   110

Leu Glu Ile Glu Phe Cys Leu Lys His Arg Ser Cys Pro Pro Gly Phe
        115   120   125

Gly Val Val Gln Ala Gly Thr Pro Glu Arg Asn Thr Val Cys Lys Arg
    130   135   140

Cys Pro Asp Gly Phe Phe Ser Asn Glu Thr Ser Ser Lys Ala Pro Cys
145   150   155   160

Arg Lys His Thr Asn Cys Ser Val Phe Gly Leu Leu Leu Thr Gln Lys
            165   170   175

Gly Asn Ala Thr His Asp Asn Ile Cys Ser Gly Asn Ser Glu Ser Thr
        180   185   190

Gln Lys Ser Gly Ile Asp Val Thr Leu Cys Glu Glu Ala Phe Phe Arg
        195   200   205

Phe Ala Val Pro Thr Lys Phe Thr Pro Asn Trp Leu Ser Val Leu Val
    210   215   220

Asp Asn Leu Pro Gly Thr Lys Val Asn Ala Glu Ser Val Glu Arg Ile
225   230   235   240

Lys Arg Gln His Ser Ser Gln Glu Gln Thr Phe Gln Leu Leu Lys Leu
            245   250   255

Trp Lys His Gln Asn Lys Asp Gln Asp Ile Val Lys Lys Ile Ile Gln
            260   265   270

Asp Ile Asp Leu Cys Glu Asn Ser Val Gln Arg His Ile Gly His Ala
        275   280   285

Asn Leu Thr Phe Glu Gln Leu Arg Ser Leu Met Glu Ser Leu Pro Gly
    290   295   300

Lys Lys Val Gly Ala Glu Asp Ile Glu Lys Thr Ile Lys Ala Cys Lys
305   310   315   320

Pro Ser Asp Gln Ile Leu Lys Leu Leu Ser Leu Trp Arg Ile Lys Asn
            325   330   335

Gly Asp Gln Asp Thr Leu Lys Gly Leu Met His Ala Leu Lys His Ser
            340   345   350

Lys Thr Tyr His Phe Pro Lys Thr Val Thr Gln Ser Leu Lys Lys Thr
        355   360   365
                                            .

Ile Arg Phe Leu His Ser Phe Thr Met Tyr Lys Leu Tyr Gln Lys Leu
    370   375   380

Phe Leu Glu Met Ile Gly Asn Gln Val Gln Ser Val Lys Ile Ser Cys
385   390   395   400

Leu

<210>   63
<211>   401
<212>   PRT
<213>   Homo sapiens

<400>   63

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Met Asn Asn Leu Leu Cys Cys Ala Leu Val Phe Leu Asp Ile Ser Ile
1             5                 10              15

Lys Trp Thr Thr Gln Glu Thr Phe Pro Pro Lys Tyr Leu His Tyr Asp
            20              25              30

Glu Glu Thr Ser His Gln Leu Leu Cys Asp Lys Cys Pro Pro Gly Thr
        35              40              45

Tyr Leu Lys Gln His Cys Thr Ala Lys Trp Lys Thr Val Cys Ala Pro
    50              55              60

Cys Pro Asp His Tyr Tyr Thr Asp Ser Trp His Thr Ser Asp Glu Cys
65              70              75              80

Leu Tyr Cys Ser Pro Val Cys Lys Glu Leu Gln Tyr Val Lys Gln Glu
            85              90              95

Cys Asn Arg Thr His Asn Arg Val Cys Glu Cys Lys Glu Gly Arg Tyr
            100             105             110

Leu Glu Ile Glu Phe Cys Leu Lys His Arg Ser Cys Pro Pro Gly Phe
        115             120             125

Gly Val Val Gln Ala Gly Thr Pro Glu Arg Asn Thr Val Cys Lys Arg
    130             135             140

Cys Pro Asp Gly Phe Phe Ser Asn Glu Thr Ser Ser Lys Ala Pro Cys
145             150             155             160

Arg Lys His Thr Asn Cys Ser Val Phe Gly Leu Leu Leu Thr Gln Lys
            165             170             175

Gly Asn Ala Thr His Asp Asn Ile Cys Ser Gly Asn Ser Glu Ser Thr
            180             185             190

Gln Lys Cys Gly Ile Asp Val Thr Leu Ser Glu Glu Ala Phe Phe Arg
        195             200             205

Phe Ala Val Pro Thr Lys Phe Thr Pro Asn Trp Leu Ser Val Leu Val
    210             215             220

Asp Asn Leu Pro Gly Thr Lys Val Asn Ala Glu Ser Val Glu Arg Ile
```

27

Lys Arg Gln His Ser Ser Gln Glu Gln Thr Phe Gln Leu Leu Lys Leu
            245   250   255

Trp Lys His Gln Asn Lys Asp Gln Asp Ile Val Lys Lys Ile Ile Gln
            260   265   270

Asp Ile Asp Leu Cys Glu Asn Ser Val Gln Arg His Ile Gly His Ala
            275   280   285

Asn Leu Thr Phe Glu Gln Leu Arg Ser Leu Met Glu Ser Leu Pro Gly
    290   295   300

Lys Lys Val Gly Ala Glu Asp Ile Glu Lys Thr Ile Lys Ala Cys Lys
305   310   315   320

Pro Ser Asp Gln Ile Leu Lys Leu Leu Ser Leu Trp Arg Ile Lys Asn
            325   330   335

Gly Asp Gln Asp Thr Leu Lys Gly Leu Met His Ala Leu Lys His Ser
            340   345   350

Lys Thr Tyr His Phe Pro Lys Thr Val Thr Gln Ser Leu Lys Lys Thr
            355   360   365

Ile Arg Phe Leu His Ser Phe Thr Met Tyr Lys Leu Tyr Gln Lys Leu
            370   375   380

Phe Leu Glu Met Ile Gly Asn Gln Val Gln Ser Val Lys Ile Ser Cys
385   390   395   400

Leu

<210> 64
<211> 401
<212> PRT
<213> Homo sapiens

<400> 64

Met Asn Asn Leu Leu Cys Cys Ala Leu Val Phe Leu Asp Ile Ser Ile
1   5   10   15

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Lys Trp Thr Thr Gln Glu Thr Phe Pro Pro Lys Tyr Leu His Tyr Asp
        20              25              30

Glu Glu Thr Ser His Gln Leu Leu Cys Asp Lys Cys Pro Pro Gly Thr
        35              40              45

Tyr Leu Lys Gln His Cys Thr Ala Lys Trp Lys Thr Val Cys Ala Pro
    50              55              60

Cys Pro Asp His Tyr Tyr Thr Asp Ser Trp His Thr Ser Asp Glu Cys
65              70              75              80

Leu Tyr Cys Ser Pro Val Cys Lys Glu Leu Gln Tyr Val Lys Gln Glu
            85              90              95

Cys Asn Arg Thr His Asn Arg Val Cys Glu Cys Lys Glu Gly Arg Tyr
            100             105             110

Leu Glu Ile Glu Phe Cys Leu Lys His Arg Ser Cys Pro Pro Gly Phe
        115             120             125

Gly Val Val Gln Ala Gly Thr Pro Glu Arg Asn Thr Val Cys Lys Arg
    130             135             140

Cys Pro Asp Gly Phe Phe Ser Asn Glu Thr Ser Ser Lys Ala Pro Cys
145             150             155             160

Arg Lys His Thr Asn Cys Ser Val Phe Gly Leu Leu Leu Thr Gln Lys
            165             170             175

Gly Asn Ala Thr His Asp Asn Ile Cys Ser Gly Asn Ser Glu Ser Thr
            180             185             190

Gln Lys Cys Gly Ile Asp Val Thr Leu Cys Glu Glu Ala Phe Phe Arg
            195             200             205

Phe Ala Val Pro Thr Lys Phe Thr Pro Asn Trp Leu Ser Val Leu Val
    210             215             220

Asp Asn Leu Pro Gly Thr Lys Val Asn Ala Glu Ser Val Glu Arg Ile
225             230             235             240
```

Lys Arg Gln His Ser Ser Gln Glu Gln Thr Phe Gln Leu Leu Lys Leu
            245   250   255

Trp Lys His Gln Asn Lys Asp Gln Asp Ile Val Lys Lys Ile Ile Gln
            260   265   270

Asp Ile Asp Leu Ser Glu Asn Ser Val Gln Arg His Ile Gly His Ala
            275   280   285

Asn Leu Thr Phe Glu Gln Leu Arg Ser Leu Met Glu Ser Leu Pro Gly
    290   295   300

Lys Lys Val Gly Ala Glu Asp Ile Glu Lys Thr Ile Lys Ala Cys Lys
305   310   315   320

Pro Ser Asp Gln Ile Leu Lys Leu Leu Ser Leu Trp Arg Ile Lys Asn
            325   330   335

Gly Asp Gln Asp Thr Leu Lys Gly Leu Met His Ala Leu Lys His Ser
            340   345   350

Lys Thr Tyr His Phe Pro Lys Thr Val Thr Gln Ser Leu Lys Lys Thr
            355   360   365

Ile Arg Phe Leu His Ser Phe Thr Met Tyr Lys Leu Tyr Gln Lys Leu
    370   375   380

Phe Leu Glu Met Ile Gly Asn Gln Val Gln Ser Val Lys Ile Ser Cys
385   390   395   400

Leu

<210>   65
<211>   401
<212>   PRT
<213>   Homo sapiens

<400>   65

Met Asn Asn Leu Leu Cys Cys Ala Leu Val Phe Leu Asp Ile Ser Ile
1   5   10   15

Lys Trp Thr Thr Gln Glu Thr Phe Pro Pro Lys Tyr Leu His Tyr Asp
            20   25   30

Glu Glu Thr Ser His Gln Leu Leu Cys Asp Lys Cys Pro Pro Gly Thr
     35   40   45

Tyr Leu Lys Gln His Cys Thr Ala Lys Trp Lys Thr Val Cys Ala Pro
     50   55   60

Cys Pro Asp His Tyr Tyr Thr Asp Ser Trp His Thr Ser Asp Glu Cys
65   70   75   80

Leu Tyr Cys Ser Pro Val Cys Lys Glu Leu Gln Tyr Val Lys Gln Glu
          85   90   95

Cys Asn Arg Thr His Asn Arg Val Cys Glu Cys Lys Glu Gly Arg Tyr
         100   105   110

Leu Glu Ile Glu Phe Cys Leu Lys His Arg Ser Cys Pro Pro Gly Phe
         115   120   125

Gly Val Val Gln Ala Gly Thr Pro Glu Arg Asn Thr Val Cys Lys Arg
     130   135   140

Cys Pro Asp Gly Phe Phe Ser Asn Glu Thr Ser Ser Lys Ala Pro Cys
145   150   155   160

Arg Lys His Thr Asn Cys Ser Val Phe Gly Leu Leu Leu Thr Gln Lys
         165   170   175

Gly Asn Ala Thr His Asp Asn Ile Cys Ser Gly Asn Ser Glu Ser Thr
         180   185   190

Gln Lys Cys Gly Ile Asp Val Thr Leu Cys Glu Glu Ala Phe Phe Arg
         195   200   205

Phe Ala Val Pro Thr Lys Phe Thr Pro Asn Trp Leu Ser Val Leu Val
     210   215   220

Asp Asn Leu Pro Gly Thr Lys Val Asn Ala Glu Ser Val Glu Arg Ile
225   230   235   240

Lys Arg Gln His Ser Ser Gln Glu Gln Thr Phe Gln Leu Leu Lys Leu
         245   250   255

Trp Lys His Gln Asn Lys Asp Gln Asp Ile Val Lys Lys Ile Ile Gln
        260   265   270

Asp Ile Asp Leu Cys Glu Asn Ser Val Gln Arg His Ile Gly His Ala
        275   280   285

Asn Leu Thr Phe Glu Gln Leu Arg Ser Leu Met Glu Ser Leu Pro Gly
        290   295   300

Lys Lys Val Gly Ala Glu Asp Ile Glu Lys Thr Ile Lys Ala Ser Lys
305   310   315   320

Pro Ser Asp Gln Ile Leu Lys Leu Leu Ser Leu Trp Arg Ile Lys Asn
        325   330   335

Gly Asp Gln Asp Thr Leu Lys Gly Leu Met His Ala Leu Lys His Ser
        340   345   350

Lys Thr Tyr His Phe Pro Lys Thr Val Thr Gln Ser Leu Lys Lys Thr
        355   360   365

Ile Arg Phe Leu His Ser Phe Thr Met Tyr Lys Leu Tyr Gln Lys Leu
        370   375   380

Phe Leu Glu Met Ile Gly Asn Gln Val Gln Ser Val Lys Ile Ser Cys
385   390   395   400

Leu

<210> 66
<211> 401
<212> PRT
<213> Homo sapiens

<400> 66

Met Asn Asn Leu Leu Cys Cys Ala Leu Val Phe Leu Asp Ile Ser Ile
1   5   10   15

Lys Trp Thr Thr Gln Glu Thr Phe Pro Pro Lys Tyr Leu His Tyr Asp
                20   25   30

Glu Glu Thr Ser His Gln Leu Leu Cys Asp Lys Cys Pro Pro Gly Thr

32

Tyr Leu Lys Gln His Cys Thr Ala Lys Trp Lys Thr Val Cys Ala Pro
    50   55   60

Cys Pro Asp His Tyr Tyr Thr Asp Ser Trp His Thr Ser Asp Glu Cys
65   70   75   80

Leu Tyr Cys Ser Pro Val Cys Lys Glu Leu Gln Tyr Val Lys Gln Glu
              85   90   95

Cys Asn Arg Thr His Asn Arg Val Cys Glu Cys Lys Glu Gly Arg Tyr
            100   105   110

Leu Glu Ile Glu Phe Cys Leu Lys His Arg Ser Cys Pro Pro Gly Phe
            115   120   125

Gly Val Val Gln Ala Gly Thr Pro Glu Arg Asn Thr Val Cys Lys Arg
    130   135   140

Cys Pro Asp Gly Phe Phe Ser Asn Glu Thr Ser Ser Lys Ala Pro Cys
145   150   155   160

Arg Lys His Thr Asn Cys Ser Val Phe Gly Leu Leu Leu Thr Gln Lys
            165   170   175

Gly Asn Ala Thr His Asp Asn Ile Cys Ser Gly Asn Ser Glu Ser Thr
            180   185   190

Gln Lys Cys Gly Ile Asp Val Thr Leu Cys Glu Glu Ala Phe Phe Arg
        195   200   205

Phe Ala Val Pro Thr Lys Phe Thr Pro Asn Trp Leu Ser Val Leu Val
    210   215   220

Asp Asn Leu Pro Gly Thr Lys Val Asn Ala Glu Ser Val Glu Arg Ile
225   230   235   240

Lys Arg Gln His Ser Ser Gln Glu Gln Thr Phe Gln Leu Leu Lys Leu
            245   250   255

Trp Lys His Gln Asn Lys Asp Gln Asp Ile Val Lys Lys Ile Ile Gln
        260   265   270

33

Asp Ile Asp Leu Cys Glu Asn Ser Val Gln Arg His Ile Gly His Ala
        275   280   285

Asn Leu Thr Phe Glu Gln Leu Arg Ser Leu Met Glu Ser Leu Pro Gly
        290   295   300

Lys Lys Val Gly Ala Glu Asp Ile Glu Lys Thr Ile Lys Ala Cys Lys
305   310   315   320

Pro Ser Asp Gln Ile Leu Lys Leu Leu Ser Leu Trp Arg Ile Lys Asn
            325   330   335

Gly Asp Gln Asp Thr Leu Lys Gly Leu Met His Ala Leu Lys His Ser
            340   345   350

Lys Thr Tyr His Phe Pro Lys Thr Val Thr Gln Ser Leu Lys Lys Thr
        355   360   365

Ile Arg Phe Leu His Ser Phe Thr Met Tyr Lys Leu Tyr Gln Lys Leu
        370   375   380

Phe Leu Glu Met Ile Gly Asn Gln Val Gln Ser Val Lys Ile Ser Ser
385   390   395   400

Leu

<210> 67
<211> 360
<212> PRT
<213> Homo sapiens

<400> 67

Met Asn Asn Leu Leu Cys Cys Ala Leu Val Phe Leu Asp Ile Ser Ile
1   5   10   15

Lys Trp Thr Thr Gln Glu Pro Cys Pro Asp His Tyr Tyr Thr Asp Ser
            20   25   30

Trp His Thr Ser Asp Glu Cys Leu Tyr Cys Ser Pro Val Cys Lys Glu
        35   40   45

34

Leu Gln Tyr Val Lys Gln Glu Cys Asn Arg Thr His Asn Arg Val Cys
    50   55   60

Glu Cys Lys Glu Gly Arg Tyr Leu Glu Ile Glu Phe Cys Leu Lys His
65   70   75   80

Arg Ser Cys Pro Pro Gly Phe Gly Val Val Gln Ala Gly Thr Pro Glu
                85   90   95

Arg Asn Thr Val Cys Lys Arg Cys Pro Asp Gly Phe Phe Ser Asn Glu
                100   105   110

Thr Ser Ser Lys Ala Pro Cys Arg Lys His Thr Asn Cys Ser Val Phe
        115   120   125

Gly Leu Leu Leu Thr Gln Lys Gly Asn Ala Thr His Asp Asn Ile Cys
    130   135   140

Ser Gly Asn Ser Glu Ser Thr Gln Lys Cys Gly Ile Asp Val Thr Leu
145   150   155   160

Cys Glu Glu Ala Phe Phe Arg Phe Ala Val Pro Thr Lys Phe Thr Pro
                165   170   175

Asn Trp Leu Ser Val Leu Val Asp Asn Leu Pro Gly Thr Lys Val Asn
                180   185   190

Ala Glu Ser Val Glu Arg Ile Lys Arg Gln His Ser Ser Gln Glu Gln
        195   200   205

Thr Phe Gln Leu Leu Lys Leu Trp Lys His Gln Asn Lys Asp Gln Asp
    210   215   220

Ile Val Lys Lys Ile Ile Gln Asp Ile Asp Leu Cys Glu Asn Ser Val
225   230   235   240

Gln Arg His Ile Gly His Ala Asn Leu Thr Phe Glu Gln Leu Arg Ser
                245   250   255

Leu Met Glu Ser Leu Pro Gly Lys Lys Val Gly Ala Glu Asp Ile Glu
                260   265   270

Lys Thr Ile Lys Ala Cys Lys Pro Ser Asp Gln Ile Leu Lys Leu Leu

Ser Leu Trp Arg Ile Lys Asn Gly Asp Gln Asp Thr Leu Lys Gly Leu
    290   295   300

Met His Ala Leu Lys His Ser Lys Thr Tyr His Phe Pro Lys Thr Val
305   310   315   320

Thr Gln Ser Leu Lys Lys Thr Ile Arg Phe Leu His Ser Phe Thr Met
                325   330   335

Tyr Lys Leu Tyr Gln Lys Leu Phe Leu Glu Met Ile Gly Asn Gln Val
                340   345   350

Gln Ser Val Lys Ile Ser Cys Leu
        355   360

<210> 68
<211> 359
<212> PRT
<213> Homo sapiens

<400> 68

Met Asn Asn Leu Leu Cys Cys Ala Leu Val Phe Leu Asp Ile Ser Ile
1   5   10   15

Lys Trp Thr Thr Gln Glu Thr Phe Pro Pro Lys Tyr Leu His Tyr Asp
                20   25   30

Glu Glu Thr Ser His Gln Leu Leu Cys Asp Lys Cys Pro Pro Gly Thr
            35   40   45

Tyr Leu Lys Gln His Cys Thr Ala Lys Trp Lys Thr Val Cys Ala Glu
    50   55   60

Cys Lys Glu Gly Arg Tyr Leu Glu Ile Glu Phe Cys Leu Lys His Arg
65   70   75   80

Ser Cys Pro Pro Gly Phe Gly Val Val Gln Ala Gly Thr Pro Glu Arg
                85   90   95

Asn Thr Val Cys Lys Arg Cys Pro Asp Gly Phe Phe Ser Asn Glu Thr
                100   105   110

```
Ser Ser Lys Ala Pro Cys Arg Lys His Thr Asn Cys Ser Val Phe Gly
        115             120             125

Leu Leu Leu Thr Gln Lys Gly Asn Ala Thr His Asp Asn Ile Cys Ser
    130             135             140

Gly Asn Ser Glu Ser Thr Gln Lys Cys Gly Ile Asp Val Thr Leu Cys
145             150             155             160

Glu Glu Ala Phe Phe Arg Phe Ala Val Pro Thr Lys Phe Thr Pro Asn
            165             170             175

Trp Leu Ser Val Leu Val Asp Asn Leu Pro Gly Thr Lys Val Asn Ala
            180             185             190

Glu Ser Val Glu Arg Ile Lys Arg Gln His Ser Ser Gln Glu Gln Thr
        195             200             205

Phe Gln Leu Leu Lys Leu Trp Lys His Gln Asn Lys Asp Gln Asp Ile
    210             215             220

Val Lys Lys Ile Ile Gln Asp Ile Asp Leu Cys Glu Asn Ser Val Gln
225             230             235             240

Arg His Ile Gly His Ala Asn Leu Thr Phe Glu Gln Leu Arg Ser Leu
            245             250             255

Met Glu Ser Leu Pro Gly Lys Lys Val Gly Ala Glu Asp Ile Glu Lys
            260             265             270

Thr Ile Lys Ala Cys Lys Pro Ser Asp Gln Ile Leu Lys Leu Leu Ser
        275             280             285

Leu Trp Arg Ile Lys Asn Gly Asp Gln Asp Thr Leu Lys Gly Leu Met
    290             295             300

His Ala Leu Lys His Ser Lys Thr Tyr His Phe Pro Lys Thr Val Thr
305             310             315             320

Gln Ser Leu Lys Lys Thr Ile Arg Phe Leu His Ser Phe Thr Met Tyr
            325             330             335
```

37

Lys Leu Tyr Gln Lys Leu Phe Leu Glu Met Ile Gly Asn Gln Val Gln
        340   345   350

Ser Val Lys Ile Ser Cys Leu
        355

<210> 69
<211> 363
<212> PRT
<213> Homo sapiens

<400> 69

Met Asn Asn Leu Leu Cys Cys Ala Leu Val Phe Leu Asp Ile Ser Ile
1   5   10   15

Lys Trp Thr Thr Gln Glu Thr Phe Pro Pro Lys Tyr Leu His Tyr Asp
            20   25   30

Glu Glu Thr Ser His Gln Leu Leu Cys Asp Lys Cys Pro Pro Gly Thr
        35   40   45

Tyr Leu Lys Gln His Cys Thr Ala Lys Trp Lys Thr Val Cys Ala Pro
    50   55   60

Cys Pro Asp His Tyr Tyr Thr Asp Ser Trp His Thr Ser Asp Glu Cys
65   70   75   80

Leu Tyr Cys Ser Pro Val Cys Lys Glu Leu Gln Tyr Val Lys Gln Glu
            85   90   95

Cys Asn Arg Thr His Asn Arg Val Cys Arg Cys Pro Asp Gly Phe Phe
        100   105   110

Ser Asn Glu Thr Ser Ser Lys Ala Pro Cys Arg Lys His Thr Asn Cys
        115   120   125

Ser Val Phe Gly Leu Leu Leu Thr Gln Lys Gly Asn Ala Thr His Asp
    130   135   140

Asn Ile Cys Ser Gly Asn Ser Glu Ser Thr Gln Lys Cys Gly Ile Asp
145   150   155   160

Val Thr Leu Cys Glu Glu Ala Phe Phe Arg Phe Ala Val Pro Thr Lys
            165   170   175

38

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Phe Thr Pro Asn Trp Leu Ser Val Leu Val Asp Asn Leu Pro Gly Thr
        180                 185                 190

Lys Val Asn Ala Glu Ser Val Glu Arg Ile Lys Arg Gln His Ser Ser
        195                 200                 205

Gln Glu Gln Thr Phe Gln Leu Leu Lys Leu Trp Lys His Gln Asn Lys
        210                 215                 220

Asp Gln Asp Ile Val Lys Lys Ile Ile Gln Asp Ile Asp Leu Cys Glu
225                 230                 235                 240

Asn Ser Val Gln Arg His Ile Gly His Ala Asn Leu Thr Phe Glu Gln
        245                 250                 255

Leu Arg Ser Leu Met Glu Ser Leu Pro Gly Lys Lys Val Gly Ala Glu
        260                 265                 270

Asp Ile Glu Lys Thr Ile Lys Ala Cys Lys Pro Ser Asp Gln Ile Leu
        275                 280                 285

Lys Leu Leu Ser Leu Trp Arg Ile Lys Asn Gly Asp Gln Asp Thr Leu
        290                 295                 300

Lys Gly Leu Met His Ala Leu Lys His Ser Lys Thr Tyr His Phe Pro
305                 310                 315                 320

Lys Thr Val Thr Gln Ser Leu Lys Lys Thr Ile Arg Phe Leu His Ser
        325                 330                 335

Phe Thr Met Tyr Lys Leu Tyr Gln Lys Leu Phe Leu Glu Met Ile Gly
        340                 345                 350

Asn Gln Val Gln Ser Val Lys Ile Ser Cys Leu
        355                 360


<210>   70
<211>   359
<212>   PRT
<213>   Homo sapiens

<400>   70
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Met Asn Asn Leu Leu Cys Cys Ala Leu Val Phe Leu Asp Ile Ser Ile
1               5                   10              15

Lys Trp Thr Thr Gln Glu Thr Phe Pro Pro Lys Tyr Leu His Tyr Asp
            20              25              30

Glu Glu Thr Ser His Gln Leu Leu Cys Asp Lys Cys Pro Pro Gly Thr
        35                  40              45

Tyr Leu Lys Gln His Cys Thr Ala Lys Trp Lys Thr Val Cys Ala Pro
    50                  55              60

Cys Pro Asp His Tyr Tyr Thr Asp Ser Trp His Thr Ser Asp Glu Cys
65              70              75              80

Leu Tyr Cys Ser Pro Val Cys Lys Glu Leu Gln Tyr Val Lys Gln Glu
                85              90              95

Cys Asn Arg Thr His Asn Arg Val Cys Glu Cys Lys Glu Gly Arg Tyr
            100             105             110

Leu Glu Ile Glu Phe Cys Leu Lys His Arg Ser Cys Pro Pro Gly Phe
        115             120             125

Gly Val Val Gln Ala Gly Thr Pro Glu Arg Asn Thr Val Cys Lys Ser
    130             135                 140

Gly Asn Ser Glu Ser Thr Gln Lys Cys Gly Ile Asp Val Thr Leu Cys
145             150             155                 160

Glu Glu Ala Phe Phe Arg Phe Ala Val Pro Thr Lys Phe Thr Pro Asn
            165             170             175

Trp Leu Ser Val Leu Val Asp Asn Leu Pro Gly Thr Lys Val Asn Ala
            180             185             190

Glu Ser Val Glu Arg Ile Lys Arg Gln His Ser Ser Gln Glu Gln Thr
    195             200             205

Phe Gln Leu Leu Lys Leu Trp Lys His Gln Asn Lys Asp Gln Asp Ile
    210             215             220

Val Lys Lys Ile Ile Gln Asp Ile Asp Leu Cys Glu Asn Ser Val Gln
```

Arg His Ile Gly His Ala Asn Leu Thr Phe Glu Gln Leu Arg Ser Leu
            245   250   255

Met Glu Ser Leu Pro Gly Lys Lys Val Gly Ala Glu Asp Ile Glu Lys
            260   265   270

Thr Ile Lys Ala Cys Lys Pro Ser Asp Gln Ile Leu Lys Leu Leu Ser
            275   280   285

Leu Trp Arg Ile Lys Asn Gly Asp Gln Asp Thr Leu Lys Gly Leu Met
            290   295   300

His Ala Leu Lys His Ser Lys Thr Tyr His Phe Pro Lys Thr Val Thr
305   310   315   320

Gln Ser Leu Lys Lys Thr Ile Arg Phe Leu His Ser Phe Thr Met Tyr
            325   330   335

Lys Leu Tyr Gln Lys Leu Phe Leu Glu Met Ile Gly Asn Gln Val Gln
            340   345   350

Ser Val Lys Ile Ser Cys Leu
            355

<210> 71
<211> 326
<212> PRT
<213> Homo sapiens

<400> 71

Met Asn Asn Leu Leu Cys Cys Ala Leu Val Phe Leu Asp Ile Ser Ile
1   5   10   15

Lys Trp Thr Thr Gln Glu Thr Phe Pro Pro Lys Tyr Leu His Tyr Asp
            20   25   30

Glu Glu Thr Ser His Gln Leu Leu Cys Asp Lys Cys Pro Pro Gly Thr
            35   40   45

Tyr Leu Lys Gln His Cys Thr Ala Lys Trp Lys Thr Val Cys Ala Pro
    50   55   60

41

Cys Pro Asp His Tyr Tyr Thr Asp Ser Trp His Thr Ser Asp Glu Cys
65   70   75   80

Leu Tyr Cys Ser Pro Val Cys Lys Glu Leu Gln Tyr Val Lys Gln Glu
                85   90   95

Cys Asn Arg Thr His Asn Arg Val Cys Glu Cys Lys Glu Gly Arg Tyr
            100   105   110

Leu Glu Ile Glu Phe Cys Leu Lys His Arg Ser Cys Pro Pro Gly Phe
        115   120   125

Gly Val Val Gln Ala Gly Thr Pro Glu Arg Asn Thr Val Cys Lys Arg
    130   135   140

Cys Pro Asp Gly Phe Phe Ser Asn Glu Thr Ser Ser Lys Ala Pro Cys
145   150   155   160

Arg Lys His Thr Asn Cys Ser Val Phe Gly Leu Leu Leu Thr Gln Lys
            165   170   175

Gly Asn Ala Thr His Asp Asn Ile Cys Ser Gly Asn Ser Glu Ser Thr
            180   185   190

Gln Lys Cys Gly Ile Asp Ile Asp Leu Cys Glu Asn Ser Val Gln Arg
        195   200   205

His Ile Gly His Ala Asn Leu Thr Phe Glu Gln Leu Arg Ser Leu Met
    210   215   220

Glu Ser Leu Pro Gly Lys Lys Val Gly Ala Glu Asp Ile Glu Lys Thr
225   230   235   240

Ile Lys Ala Cys Lys Pro Ser Asp Gln Ile Leu Lys Leu Leu Ser Leu
            245   250   255

Trp Arg Ile Lys Asn Gly Asp Gln Asp Thr Leu Lys Gly Leu Met His
            260   265   270

Ala Leu Lys His Ser Lys Thr Tyr His Phe Pro Lys Thr Val Thr Gln
    275   280   285

42

Ser Leu Lys Lys Thr Ile Arg Phe Leu His Ser Phe Thr Met Tyr Lys
    290   295   300

Leu Tyr Gln Lys Leu Phe Leu Glu Met Ile Gly Asn Gln Val Gln Ser
305   310   315   320

Val Lys Ile Ser Cys Leu
                325

<210> 72
<211> 327
<212> PRT
<213> Homo sapiens

<400> 72

Met Asn Asn Leu Leu Cys Cys Ala Leu Val Phe Leu Asp Ile Ser Ile
1   5   10   15

Lys Trp Thr Thr Gln Glu Thr Phe Pro Pro Lys Tyr Leu His Tyr Asp
                20   25   30

Glu Glu Thr Ser His Gln Leu Leu Cys Asp Lys Cys Pro Pro Gly Thr
            35   40   45

Tyr Leu Lys Gln His Cys Thr Ala Lys Trp Lys Thr Val Cys Ala Pro
    50   55   60

Cys Pro Asp His Tyr Tyr Thr Asp Ser Trp His Thr Ser Asp Glu Cys
65   70   75   80

Leu Tyr Cys Ser Pro Val Cys Lys Glu Leu Gln Tyr Val Lys Gln Glu
                85   90   95

Cys Asn Arg Thr His Asn Arg Val Cys Glu Cys Lys Glu Gly Arg Tyr
            100   105   110

Leu Glu Ile Glu Phe Cys Leu Lys His Arg Ser Cys Pro Pro Gly Phe
            115   120   125

Gly Val Val Gln Ala Gly Thr Pro Glu Arg Asn Thr Val Cys Lys Arg
    130   135   140

Cys Pro Asp Gly Phe Phe Ser Asn Glu Thr Ser Ser Lys Ala Pro Cys
145   150   155   160

43

```
Arg Lys His Thr Asn Cys Ser Val Phe Gly Leu Leu Leu Thr Gln Lys
              165                 170                 175


Gly Asn Ala Thr His Asp Asn Ile Cys Ser Gly Asn Ser Glu Ser Thr
              180                 185                 190


Gln Lys Cys Gly Ile Asp Val Thr Leu Cys Glu Glu Ala Phe Phe Arg
          195                 200                 205


Phe Ala Val Pro Thr Lys Phe Thr Pro Asn Trp Leu Ser Val Leu Val
      210                 215                 220


Asp Asn Leu Pro Gly Thr Lys Val Asn Ala Glu Ser Val Glu Arg Ile
225                 230                 235                 240


Lys Arg Gln His Ser Ser Gln Glu Gln Thr Phe Gln Leu Leu Lys Leu
              245                 250                 255


Trp Lys His Gln Asn Lys Asp Gln Asp Ile Val Lys Lys Ile Ile Gln
              260                 265                 270


Asp Ala Leu Lys His Ser Lys Thr Tyr His Phe Pro Lys Thr Val Thr
          275                 280                 285


Gln Ser Leu Lys Lys Thr Ile Arg Phe Leu His Ser Phe Thr Met Tyr
      290                 295                 300


Lys Leu Tyr Gln Lys Leu Phe Leu Glu Met Ile Gly Asn Gln Val Gln
305                 310                 315                 320


Ser Val Lys Ile Ser Cys Leu
              325


<210>   73
<211>   399
<212>   PRT
<213>   Homo sapiens

<400>   73

Met Asn Asn Leu Leu Cys Cys Ala Leu Val Phe Leu Asp Ile Ser Ile
1               5                   10                  15
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44

```
Lys Trp Thr Thr Gln Glu Thr Phe Pro Pro Lys Tyr Leu His Tyr Asp
        20              25              30

Glu Glu Thr Ser His Gln Leu Leu Cys Asp Lys Cys Pro Pro Gly Thr
        35              40              45

Tyr Leu Lys Gln His Cys Thr Ala Lys Trp Lys Thr Val Cys Ala Pro
    50              55              60

Cys Pro Asp His Tyr Tyr Thr Asp Ser Trp His Thr Ser Asp Glu Cys
65              70              75              80

Leu Tyr Cys Ser Pro Val Cys Lys Glu Leu Gln Tyr Val Lys Gln Glu
            85              90              95

Cys Asn Arg Thr His Asn Arg Val Cys Glu Cys Lys Glu Gly Arg Tyr
            100             105             110

Leu Glu Ile Glu Phe Cys Leu Lys His Arg Ser Cys Pro Pro Gly Phe
        115             120             125

Gly Val Val Gln Ala Gly Thr Pro Glu Arg Asn Thr Val Cys Lys Arg
    130             135             140

Cys Pro Asp Gly Phe Phe Ser Asn Glu Thr Ser Ser Lys Ala Pro Cys
145             150             155             160

Arg Lys His Thr Asn Cys Ser Val Phe Gly Leu Leu Leu Thr Gln Lys
            165             170             175

Gly Asn Ala Thr His Asp Asn Ile Cys Ser Gly Asn Ser Glu Ser Thr
            180             185             190

Gln Lys Cys Gly Ile Asp Val Thr Leu Cys Glu Glu Ala Phe Phe Arg
            195             200             205

Phe Ala Val Pro Thr Lys Phe Thr Pro Asn Trp Leu Ser Val Leu Val
    210             215             220

Asp Asn Leu Pro Gly Thr Lys Val Asn Ala Glu Ser Val Glu Arg Ile
225             230             235             240

Lys Arg Gln His Ser Ser Gln Glu Gln Thr Phe Gln Leu Leu Lys Leu
```

Trp Lys His Gln Asn Lys Asp Gln Asp Ile Val Lys Lys Ile Ile Gln
        260   265   270

Asp Ile Asp Leu Cys Glu Asn Ser Val Gln Arg His Ile Gly His Ala
        275   280   285

Asn Leu Thr Phe Glu Gln Leu Arg Ser Leu Met Glu Ser Leu Pro Gly
    290   295   300

Lys Lys Val Gly Ala Glu Asp Ile Glu Lys Thr Ile Lys Ala Cys Lys
305   310   315   320

Pro Ser Asp Gln Ile Leu Lys Leu Leu Ser Leu Trp Arg Ile Lys Asn
            325   330   335

Gly Asp Gln Asp Thr Leu Lys Gly Leu Met His Ala Leu Lys His Ser
        340   345   350

Lys Thr Tyr His Phe Pro Lys Thr Val Thr Gln Ser Leu Lys Lys Thr
        355   360   365

Ile Arg Phe Leu His Ser Phe Thr Met Tyr Lys Leu Tyr Gln Lys Leu
    370   375   380

Phe Leu Glu Met Ile Gly Asn Gln Val Gln Ser Val Lys Ile Ser
385   390   395

<210>   74
<211>   351
<212>   PRT
<213>   Homo sapiens

<400>   74

Met Asn Asn Leu Leu Cys Cys Ala Leu Val Phe Leu Asp Ile Ser Ile
1   5   10   15

Lys Trp Thr Thr Gln Glu Thr Phe Pro Pro Lys Tyr Leu His Tyr Asp
            20   25   30

Glu Glu Thr Ser His Gln Leu Leu Cys Asp Lys Cys Pro Pro Gly Thr
        35   40   45

Tyr Leu Lys Gln His Cys Thr Ala Lys Trp Lys Thr Val Cys Ala Pro
    50   55   60

Cys Pro Asp His Tyr Tyr Thr Asp Ser Trp His Thr Ser Asp Glu Cys
65   70   75   80

Leu Tyr Cys Ser Pro Val Cys Lys Glu Leu Gln Tyr Val Lys Gln Glu
                85   90   95

Cys Asn Arg Thr His Asn Arg Val Cys Glu Cys Lys Glu Gly Arg Tyr
            100   105   110

Leu Glu Ile Glu Phe Cys Leu Lys His Arg Ser Cys Pro Pro Gly Phe
            115   120   125

Gly Val Val Gln Ala Gly Thr Pro Glu Arg Asn Thr Val Cys Lys Arg
    130   135   140

Cys Pro Asp Gly Phe Phe Ser Asn Glu Thr Ser Ser Lys Ala Pro Cys
145   150   155   160

Arg Lys His Thr Asn Cys Ser Val Phe Gly Leu Leu Leu Thr Gln Lys
            165   170   175

Gly Asn Ala Thr His Asp Asn Ile Cys Ser Gly Asn Ser Glu Ser Thr
            180   185   190

Gln Lys Cys Gly Ile Asp Val Thr Leu Cys Glu Glu Ala Phe Phe Arg
    195   200   205

Phe Ala Val Pro Thr Lys Phe Thr Pro Asn Trp Leu Ser Val Leu Val
    210   215   220

Asp Asn Leu Pro Gly Thr Lys Val Asn Ala Glu Ser Val Glu Arg Ile
225   230   235   240

Lys Arg Gln His Ser Ser Gln Glu Gln Thr Phe Gln Leu Leu Lys Leu
            245   250   255

Trp Lys His Gln Asn Lys Asp Gln Asp Ile Val Lys Lys Ile Ile Gln
            260   265   270

47

```
Asp Ile Asp Leu Cys Glu Asn Ser Val Gln Arg His Ile Gly His Ala
    275                 280                 285

Asn Leu Thr Phe Glu Gln Leu Arg Ser Leu Met Glu Ser Leu Pro Gly
    290                 295                 300

Lys Lys Val Gly Ala Glu Asp Ile Glu Lys Thr Ile Lys Ala Cys Lys
305                 310                 315                 320

Pro Ser Asp Gln Ile Leu Lys Leu Leu Ser Leu Trp Arg Ile Lys Asn
                325                 330                 335

Gly Asp Gln Asp Thr Leu Lys Gly Leu Met His Ala Leu Lys His
                340                 345                 350


<210>  75
<211>  272
<212>  PRT
<213>  Homo sapiens

<400>  75

Met Asn Asn Leu Leu Cys Cys Ala Leu Val Phe Leu Asp Ile Ser Ile
1               5                   10                  15

Lys Trp Thr Thr Gln Glu Thr Phe Pro Pro Lys Tyr Leu His Tyr Asp
                20              25                  30

Glu Glu Thr Ser His Gln Leu Leu Cys Asp Lys Cys Pro Pro Gly Thr
            35                  40                  45

Tyr Leu Lys Gln His Cys Thr Ala Lys Trp Lys Thr Val Cys Ala Pro
    50                  55                  60

Cys Pro Asp His Tyr Tyr Thr Asp Ser Trp His Thr Ser Asp Glu Cys
65                  70                  75                  80

Leu Tyr Cys Ser Pro Val Cys Lys Glu Leu Gln Tyr Val Lys Gln Glu
                85                  90                  95

Cys Asn Arg Thr His Asn Arg Val Cys Glu Cys Lys Glu Gly Arg Tyr
            100                 105                 110

Leu Glu Ile Glu Phe Cys Leu Lys His Arg Ser Cys Pro Pro Gly Phe
        115                 120                 125
```

48

Gly Val Val Gln Ala Gly Thr Pro Glu Arg Asn Thr Val Cys Lys Arg
    130   135   140

Cys Pro Asp Gly Phe Phe Ser Asn Glu Thr Ser Ser Lys Ala Pro Cys
145   150   155   160

Arg Lys His Thr Asn Cys Ser Val Phe Gly Leu Leu Leu Thr Gln Lys
                165   170   175

Gly Asn Ala Thr His Asp Asn Ile Cys Ser Gly Asn Ser Glu Ser Thr
                180   185   190

Gln Lys Cys Gly Ile Asp Val Thr Leu Cys Glu Glu Ala Phe Phe Arg
            195   200   205

Phe Ala Val Pro Thr Lys Phe Thr Pro Asn Trp Leu Ser Val Leu Val
    210   215   220

Asp Asn Leu Pro Gly Thr Lys Val Asn Ala Glu Ser Val Glu Arg Ile
225   230   235   240

Lys Arg Gln His Ser Ser Gln Glu Gln Thr Phe Gln Leu Leu Lys Leu
                245   250   255

Trp Lys His Gln Asn Lys Asp Gln Asp Ile Val Lys Lys Ile Ile Gln
                260   265   270

<210>   76
<211>   197
<212>   PRT
<213>   Homo sapiens

<400>   76

Met Asn Asn Leu Leu Cys Cys Ala Leu Val Phe Leu Asp Ile Ser Ile
1   5   10   15

Lys Trp Thr Thr Gln Glu Thr Phe Pro Pro Lys Tyr Leu His Tyr Asp
                20   25   30

Glu Glu Thr Ser His Gln Leu Leu Cys Asp Lys Cys Pro Pro Gly Thr
                35   40   45

49

Tyr Leu Lys Gln His Cys Thr Ala Lys Trp Lys Thr Val Cys Ala Pro
    50   55   60

Cys Pro Asp His Tyr Tyr Thr Asp Ser Trp His Thr Ser Asp Glu Cys
65   70   75   80

Leu Tyr Cys Ser Pro Val Cys Lys Glu Leu Gln Tyr Val Lys Gln Glu
                85   90   95

Cys Asn Arg Thr His Asn Arg Val Cys Glu Cys Lys Glu Gly Arg Tyr
                100   105   110

Leu Glu Ile Glu Phe Cys Leu Lys His Arg Ser Cys Pro Pro Gly Phe
                115   120   125

Gly Val Val Gln Ala Gly Thr Pro Glu Arg Asn Thr Val Cys Lys Arg
    130   135   140

Cys Pro Asp Gly Phe Phe Ser Asn Glu Thr Ser Ser Lys Ala Pro Cys
145   150   155   160

Arg Lys His Thr Asn Cys Ser Val Phe Gly Leu Leu Leu Thr Gln Lys
                165   170   175

Gly Asn Ala Thr His Asp Asn Ile Cys Ser Gly Asn Ser Glu Ser Thr
                180   185   190

Gln Lys Cys Gly Ile
        195

<210>   77
<211>   143
<212>   PRT
<213>   Homo sapiens

<400>   77

Met Asn Asn Leu Leu Cys Cys Ala Leu Val Phe Leu Asp Ile Ser Ile
1   5   10   15

Lys Trp Thr Thr Gln Glu Thr Phe Pro Pro Lys Tyr Leu His Tyr Asp
                20   25   30

Glu Glu Thr Ser His Gln Leu Leu Cys Asp Lys Cys Pro Pro Gly Thr
        35   40   45

50

```
Tyr Leu Lys Gln His Cys Thr Ala Lys Trp Lys Thr Val Cys Ala Pro
    50                  55                  60

Cys Pro Asp His Tyr Tyr Thr Asp Ser Trp His Thr Ser Asp Glu Cys
65                  70                  75                  80

Leu Tyr Cys Ser Pro Val Cys Lys Glu Leu Gln Tyr Val Lys Gln Glu
                85                  90                  95

Cys Asn Arg Thr His Asn Arg Val Cys Glu Cys Lys Glu Gly Arg Tyr
            100                 105                 110

Leu Glu Ile Glu Phe Cys Leu Lys His Arg Ser Cys Pro Pro Gly Phe
            115                 120                 125

Gly Val Val Gln Ala Gly Thr Pro Glu Arg Asn Thr Val Cys Lys
        130                 135                 140


<210>  78
<211>  106
<212>  PRT
<213>  Homo sapiens

<400>  78

Met Asn Asn Leu Leu Cys Cys Ala Leu Val Phe Leu Asp Ile Ser Ile
1                5                  10                  15

Lys Trp Thr Thr Gln Glu Thr Phe Pro Pro Lys Tyr Leu His Tyr Asp
                20                  25                  30

Glu Glu Thr Ser His Gln Leu Leu Cys Asp Lys Cys Pro Pro Gly Thr
            35                  40                  45

Tyr Leu Lys Gln His Cys Thr Ala Lys Trp Lys Thr Val Cys Ala Pro
    50                  55                  60

Cys Pro Asp His Tyr Tyr Thr Asp Ser Trp His Thr Ser Asp Glu Cys
65                  70                  75                  80

Leu Tyr Cys Ser Pro Val Cys Lys Glu Leu Gln Tyr Val Lys Gln Glu
                85                  90                  95
```

51

Cys Asn Arg Thr His Asn Arg Val Cys Glu
          100   105

<210> 79
<211> 393
<212> PRT
<213> Homo sapiens

<400> 79

Met Asn Asn Leu Leu Cys Cys Ala Leu Val Phe Leu Asp Ile Ser Ile
1   5   10   15

Lys Trp Thr Thr Gln Glu Thr Phe Pro Pro Lys Tyr Leu His Tyr Asp
            20   25   30

Glu Glu Thr Ser His Gln Leu Leu Cys Asp Lys Cys Pro Pro Gly Thr
        35   40   45

Tyr Leu Lys Gln His Cys Thr Ala Lys Trp Lys Thr Val Cys Ala Pro
    50   55   60

Cys Pro Asp His Tyr Tyr Thr Asp Ser Trp His Thr Ser Asp Glu Cys
65   70   75   80

Leu Tyr Cys Ser Pro Val Cys Lys Glu Leu Gln Tyr Val Lys Gln Glu
            85   90   95

Cys Asn Arg Thr His Asn Arg Val Cys Glu Cys Lys Glu Gly Arg Tyr
            100   105   110

Leu Glu Ile Glu Phe Cys Leu Lys His Arg Ser Cys Pro Pro Gly Phe
        115   120   125

Gly Val Val Gln Ala Gly Thr Pro Glu Arg Asn Thr Val Cys Lys Arg
    130   135   140

Cys Pro Asp Gly Phe Phe Ser Asn Glu Thr Ser Ser Lys Ala Pro Cys
145   150   155   160

Arg Lys His Thr Asn Cys Ser Val Phe Gly Leu Leu Leu Thr Gln Lys
            165   170   175

Gly Asn Ala Thr His Asp Asn Ile Cys Ser Gly Asn Ser Glu Ser Thr
            180   185   190

52

Gln Lys Cys Gly Ile Asp Val Thr Leu Cys Glu Glu Ala Phe Phe Arg
        195   200   205

Phe Ala Val Pro Thr Lys Phe Thr Pro Asn Trp Leu Ser Val Leu Val
    210   215   220

Asp Asn Leu Pro Gly Thr Lys Val Asn Ala Glu Ser Val Glu Arg Ile
225   230   235   240

Lys Arg Gln His Ser Ser Gln Glu Gln Thr Phe Gln Leu Leu Lys Leu
                245   250   255

Trp Lys His Gln Asn Lys Asp Gln Asp Ile Val Lys Lys Ile Ile Gln
            260   265   270

Asp Ile Asp Leu Cys Glu Asn Ser Val Gln Arg His Ile Gly His Ala
        275   280   285

Asn Leu Thr Phe Glu Gln Leu Arg Ser Leu Met Glu Ser Leu Pro Gly
    290   295   300

Lys Lys Val Gly Ala Glu Asp Ile Glu Lys Thr Ile Lys Ala Cys Lys
305   310   315   320

Pro Ser Asp Gln Ile Leu Lys Leu Leu Ser Leu Trp Arg Ile Lys Asn
                325   330   335

Gly Asp Gln Asp Thr Leu Lys Gly Leu Met His Ala Leu Lys His Ser
                340   345   350

Lys Thr Tyr His Phe Pro Lys Thr Val Thr Gln Ser Leu Lys Lys Thr
                355   360   365

Ile Arg Phe Leu His Ser Phe Thr Met Tyr Lys Leu Tyr Gln Lys Leu
    370   375   380

Phe Leu Glu Met Ile Gly Asn Leu Val
385   390

<210>   80
<211>   321
<212>   PRT

53

Met Asn Asn Leu Leu Cys Cys Ala Leu Val Phe Leu Asp Ile Ser Ile
1   5   10   15

Lys Trp Thr Thr Gln Glu Thr Phe Pro Pro Lys Tyr Leu His Tyr Asp
            20   25   30

Glu Glu Thr Ser His Gln Leu Leu Cys Asp Lys Cys Pro Pro Gly Thr
            35   40   45

Tyr Leu Lys Gln His Cys Thr Ala Lys Trp Lys Thr Val Cys Ala Pro
    50   55   60

Cys Pro Asp His Tyr Tyr Thr Asp Ser Trp His Thr Ser Asp Glu Cys
65   70   75   80

Leu Tyr Cys Ser Pro Val Cys Lys Glu Leu Gln Tyr Val Lys Gln Glu
                85   90   95

Cys Asn Arg Thr His Asn Arg Val Cys Glu Cys Lys Glu Gly Arg Tyr
            100   105   110

Leu Glu Ile Glu Phe Cys Leu Lys His Arg Ser Cys Pro Pro Gly Phe
            115   120   125

Gly Val Val Gln Ala Gly Thr Pro Glu Arg Asn Thr Val Cys Lys Arg
    130   135   140

Cys Pro Asp Gly Phe Phe Ser Asn Glu Thr Ser Ser Lys Ala Pro Cys
145   150   155   160

Arg Lys His Thr Asn Cys Ser Val Phe Gly Leu Leu Leu Thr Gln Lys
            165   170   175

Gly Asn Ala Thr His Asp Asn Ile Cys Ser Gly Asn Ser Glu Ser Thr
            180   185   190

Gln Lys Cys Gly Ile Asp Val Thr Leu Cys Glu Glu Ala Phe Phe Arg
            195   200   205

Phe Ala Val Pro Thr Lys Phe Thr Pro Asn Trp Leu Ser Val Leu Val

54

210   215   220

Asp Asn Leu Pro Gly Thr Lys Val Asn Ala Glu Ser Val Glu Arg Ile
225   230   235   240

Lys Arg Gln His Ser Ser Gln Glu Gln Thr Phe Gln Leu Leu Lys Leu
                245   250   255

Trp Lys His Gln Asn Lys Asp Gln Asp Ile Val Lys Lys Ile Ile Gln
                260   265   270

Asp Ile Asp Leu Cys Glu Asn Ser Val Gln Arg His Ile Gly His Ala
                275   280   285

Asn Leu Thr Phe Glu Gln Leu Arg Ser Leu Met Glu Ser Leu Pro Gly
    290   295   300

Lys Lys Val Gly Ala Glu Asp Ile Glu Lys Thr Ile Lys Ala Ser Leu
305   310   315   320

Asp

<210>   81
<211>   187
<212>   PRT
<213>   Homo sapiens

<400>   81

Met Asn Asn Leu Leu Cys Cys Ala Leu Val Phe Leu Asp Ile Ser Ile
1   5   10   15

Lys Trp Thr Thr Gln Glu Thr Phe Pro Pro Lys Tyr Leu His Tyr Asp
                20   25   30

Glu Glu Thr Ser His Gln Leu Leu Cys Asp Lys Cys Pro Pro Gly Thr
        35   40   45

Tyr Leu Lys Gln His Cys Thr Ala Lys Trp Lys Thr Val Cys Ala Pro
    50   55   60

Cys Pro Asp His Tyr Tyr Thr Asp Ser Trp His Thr Ser Asp Glu Cys
65   70   75   80

                                    55

Leu Tyr Cys Ser Pro Val Cys Lys Glu Leu Gln Tyr Val Lys Gln Glu
             85   90   95

Cys Asn Arg Thr His Asn Arg Val Cys Glu Cys Lys Glu Gly Arg Tyr
             100   105   110

Leu Glu Ile Glu Phe Cys Leu Lys His Arg Ser Cys Pro Pro Gly Phe
             115   120   125

Gly Val Val Gln Ala Gly Thr Pro Glu Arg Asn Thr Val Cys Lys Arg
         130   135   140

Cys Pro Asp Gly Phe Phe Ser Asn Glu Thr Ser Ser Lys Ala Pro Cys
145   150   155   160

Arg Lys His Thr Asn Cys Ser Val Phe Gly Leu Leu Leu Thr Gln Lys
                 165   170   175

Gly Asn Ala Thr His Asp Asn Ile Cys Ser Gly
                 180   185

<210> 82
<211> 84
<212> PRT
<213> Homo sapiens

<400> 82

Met Asn Asn Leu Leu Cys Cys Ala Leu Val Phe Leu Asp Ile Ser Ile
1   5   10   15

Lys Trp Thr Thr Gln Glu Thr Phe Pro Pro Lys Tyr Leu His Tyr Asp
                 20   25   30

Glu Glu Thr Ser His Gln Leu Leu Cys Asp Lys Cys Pro Pro Gly Thr
             35   40   45

Tyr Leu Lys Gln His Cys Thr Ala Lys Trp Lys Thr Val Cys Ala Pro
     50   55   60

Cys Pro Asp His Tyr Tyr Thr Asp Ser Trp His Thr Ser Asp Glu Cys
65   70   75   80

Leu Tyr Leu Val

56

<210> 83
<211> 1206
<212> DNA
<213> Homo sapiens

<400> 83
atgaacaact tgctgtgctg cgcgctcgtg tttctggaca tctccattaa gtggaccacc   60

caggaaacgt ttcctccaaa gtaccttcat tatgacgaag aaacctctca tcagctgttg   120

tgtgacaaat gtcctcctgg tacctaccta aaacaacact gtacagcaaa gtggaagacc   180

gtgtgcgccc cttgccctga ccactactac acagacagct ggcacaccag tgacgagtgt   240

ctatactgca gccccgtgtg caaggagctg cagtacgtca agcaggagtg caatcgcacc   300

cacaaccgcg tgtgcgaatg caaggaaggg cgctaccttg agatagagtt ctgcttgaaa   360

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gtttgcaaaa gatgtccaga tgggttcttc tcaaatgaga cgtcatctaa agcaccctgt   480

agaaaacaca caaattgcag tgtctttggt ctcctgctaa ctcagaaagg aaatgcaaca   540

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cccagtgacc agatcctgaa gctgctcagt ttgtggcgaa taaaaaatgg cgaccaagac   1020

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gtcactcaga gtctaaagaa gaccatcagg ttccttcaca gcttcacaat gtacaaattg   1140

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<210> 84
<211> 1206
<212> DNA
<213> Homo sapiens

<400> 84

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agaaaacaca caaattgcag tgtctttggt ctcctgctaa ctcagaaagg aaatgcaaca     540

cacgacaaca tatgttccgg aaacagtgaa tcaactcaaa aatgtggaat agatgttacc     600

ctgagtgagg aggcattctt caggtttgct gttcctacaa agtttacgcc taactggctt     660

agtgtcttgg tagacaattt gcctggcacc aaagtaaacg cagagagtgt agagaggata     720

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agcttaccgg gaaagaaagt gggagcagaa gacattgaaa aaacaataaa ggcatgcaaa     960

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gtcactcaga gtctaaagaa gaccatcagg ttccttcaca gcttcacaat gtacaaattg    1140

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ttataa                                                              1206
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<210> 85
<211> 1206
<212> DNA
<213> Homo sapiens

<400> 85

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tgtgacaaat gtcctcctgg tacctaccta aaacaacact gtacagcaaa gtggaagacc     180

gtgtgcgccc cttgccctga ccactactac acagacagct ggcacaccag tgacgagtgt     240
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58

ctatactgca gccccgtgtg caaggagctg cagtacgtca agcaggagtg caatcgcacc   300

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gtcactcaga gtctaaagaa gaccatcagg ttccttcaca gcttcacaat gtacaaattg   1140

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ttataa   1206

<210> 86
<211> 1206
<212> DNA
<213> Homo sapiens

<400> 86
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cacaaccgcg tgtgcgaatg caaggaaggg cgctaccttg agatagagtt ctgcttgaaa   360

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gtttgcaaaa gatgtccaga tgggttcttc tcaaatgaga cgtcatctaa agcaccctgt   480

59

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agtgtcttgg tagacaattt gcctggcacc aaagtaaacg cagagagtgt agagaggata      720

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gtcactcaga gtctaaagaa gaccatcagg ttccttcaca gcttcacaat gtacaaattg     1140

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ttataa                                                                1206


<210>  87
<211>  1206
<212>  DNA
<213>  Homo sapiens

<400>  87
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agtgtcttgg tagacaattt gcctggcacc aaagtaaacg cagagagtgt agagaggata      720
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60

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cccagtgacc agatcctgaa gctgctcagt ttgtggcgaa taaaaaatgg cgaccaagac     1020

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gtcactcaga gtctaaagaa gaccatcagg ttccttcaca gcttcacaat gtacaaattg     1140

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ttataa                                                                1206


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<211>  1083
<212>  DNA
<213>  Homo sapiens

<400>  88
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tgcaaaagat gtccagatgg gttcttctca aatgagacgt catctaaagc accctgtaga      360

aaacacacaa attgcagtgt ctttggtctc ctgctaactc agaaaggaaa tgcaacacac      420

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61

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taa   1083

<210> 89
<211> 1080
<212> DNA
<213> Homo sapiens

<400> 89
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tgtgacaaat gtcctcctgg tacctaccta aaacaacact gtacagcaaa gtggaagacc   180

gtgtgcgccg aatgcaagga agggcgctac cttgagatag agttctgctt gaaacatagg   240

agctgccctc ctggatttgg agtggtgcaa gctggaaccc cagagcgaaa tacagtttgc   300

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cacacaaatt gcagtgtctt tggtctcctg ctaactcaga aaggaaatgc aacacacgac   420

aacatatgtt ccggaaacag tgaatcaáct caaaaatgtg aatagatgt taccctgtgt   480

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caacacagct cacaagaaca gactttccag ctgctgaagt tatggaaaca tcaaaacaaa   660

gaccaagata tagtcaagaa gatcatccaa gatattgacc tctgtgaaaa cagcgtgcag   720

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gaccagatcc tgaagctgct cagtttgtgg cgaataaaaa atggcgacca agacaccttg   900

aagggcctaa tgcacgcact aaagcactca aagacgtacc actttcccaa aactgtcact   960

cagagtctaa agaagaccat caggttcctt cacagcttca caatgtacaa attgtatcag   1020

aagttatttt tagaaatgat aggtaaccag gtccaatcag taaaaataag ctgcttataa   1080

<210> 90
<211> 1092
<212> DNA
<213> Homo sapiens

<400> 90

62

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cacaaccgcg tgtgcagatg tccagatggg ttcttctcaa atgagacgtc atctaaagca     360

ccctgtagaa aacacacaaa ttgcagtgtc tttggtctcc tgctaactca gaaaggaaat     420

gcaacacacg acaacatatg ttccggaaac agtgaatcaa ctcaaaaatg tggaatagat     480

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aggataaaac ggcaacacag ctcacaagaa cagactttcc agctgctgaa gttatggaaa     660

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caagacacct tgaagggcct aatgcacgca ctaaagcact caaagacgta ccactttccc     960

aaaactgtca ctcagagtct aaagaagacc atcaggttcc ttcacagctt cacaatgtac    1020

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agctgcttat aa                                                        1092
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<212>   DNA
<213>   Homo sapiens

<400>   91
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cacaaccgcg tgtgcgaatg caaggaaggg cgctaccttg agatagagtt ctgcttgaaa     360
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cataggagct gccctcctgg atttggagtg gtgcaagctg aaccccaga gcgaaataca   420

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gaccaagata tagtcaagaa gatcatccaa gatattgacc tctgtgaaaa cagcgtgcag   720

cggcacattg gacatgctaa cctcaccttc gagcagcttc gtagcttgat ggaaagctta   780

ccgggaaaga aagtgggagc agaagacatt gaaaaaacaa taaaggcatg caaacccagt   840

gaccagatcc tgaagctgct cagtttgtgg cgaataaaaa atggcgacca agacaccttg   900

aagggcctaa tgcacgcact aaagcactca aagacgtacc actttcccaa aactgtcact   960

cagagtctaa agaagaccat caggttcctt cacagcttca caatgtacaa attgtatcag   1020

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<210> 92
<211> 981
<212> DNA
<213> Homo sapiens

<400> 92
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64

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gtaaaaataa gctgcttata a                                                 981


<210>  93
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gtttgcaaaa gatgtccaga tgggttcttc tcaaatgaga cgtcatctaa agcaccctgt      480

agaaaacaca caaattgcag tgtctttggt ctcctgctaa ctcagaaagg aaatgcaaca      540

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65

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ctgtgtgagg aggcattctt caggtttgct gttcctacaa agtttacgcc taactggctt      660

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aaacggcaac acagctcaca agaacagact ttccagctgc tgaagttatg gaaacatcaa      780

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gtcactcaga gtctaaagaa gaccatcagg ttccttcaca gcttcacaat gtacaaattg     1140

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66

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agtgtcttgg tagacaattt gcctggcacc aaagtaaacg cagagagtgt agagaggata      720

aaacggcaac acagctcaca agaacagact ttccagctgc tgaagttatg gaaacatcaa      780

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<400> 96
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agtgtcttgg tagacaattt gcctggcacc aaagtaaacg cagagagtgt agagaggata      720

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67

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68

<210> Homo sapiens

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<213>  Homo sapiens

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gactag                                                                   966


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gtttgcaaaa gatgtccaga tgggttcttc tcaaatgaga cgtcatctaa agcaccctgt      480

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agcacgggct ttagggccaa tcagacatta gttagaaaaa ttcctactac atggtttatg      480

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71

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72

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73

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74

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His Thr Ser Asp Glu Cys Leu Tyr Cys Ser Pro Val Cys Lys Glu Leu

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Gln Tyr Val Lys Gln Glu Cys Asn Arg Thr His Asn Arg Val Cys Glu
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Cys Lys Glu Gly Arg Tyr Leu Glu Ile Glu Phe Cys Leu Lys His Arg
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Ser Cys Pro Pro Gly Phe Gly Val Val Gln Ala Gly Thr Pro Glu Arg
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Asn Thr Val Cys Lys Arg Cys Pro Asp Gly Phe Phe Ser Asn Glu Thr
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Ser Ser Lys Ala Pro Cys Arg Lys His Thr Asn Cys Ser Val Phe Gly
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Gly Asn Ser Glu Ser Thr Gln Lys Cys Gly Ile Asp Val Thr Leu Cys
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Glu Glu Ala Phe Phe Arg Phe Ala Val Pro Thr Lys Phe Thr Pro Asn
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Trp Leu Ser Val Leu Val Asp Asn Leu Pro Gly Thr Lys Val Asn Ala
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225   230   235   240

Phe Gln Leu Leu Lys Leu Trp Lys His Gln Asn Lys Asp Gln Asp Ile
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Val Lys Lys Ile Ile Gln Asp Ile Asp Leu Cys Glu Asn Ser Val Gln
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Arg His Ile Gly His Ala Asn Leu Thr Phe Glu Gln Leu Arg Ser Leu
               275   280   285

Met Glu Ser Leu Pro Gly Lys Lys Val Gly Ala Glu Asp Ile Glu Lys
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Thr Ile Lys Ala Cys Lys Pro Ser Asp Gln Ile Leu Lys Leu Leu Ser
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Leu Trp Arg Ile Lys Asn Gly Asp Gln Asp Thr Leu Lys Gly Leu Met
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His Ala Leu Lys His Ser Lys Thr Tyr His Phe Pro Lys Thr Val Thr
                340   345   350

Gln Ser Leu Lys Lys Thr Ile Arg Phe Leu His Ser Phe Thr Met Tyr
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